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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/709,386

04/30/2004

Ramesh NAGARAJAN

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EXAMINER

MOTSINGER, SEAN T

ART UNIT

PAPER NUMBER

2624

NOTIFICATION DATE

DELIVERY MODE

04/15/2009

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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<b>Office Action Summary</b>	<b>Application No.</b> 10/709,386	<b>Applicant(s)</b> NAGARAJAN ET AL.	
	<b>Examiner</b> SEAN MOTSINGER	<b>Art Unit</b> 2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 30 January 2009.
- 2a) ☐ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-3, 9-14 and 21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3, 9-14, and 21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

***Response to Applicants Arguments/Amendments***

Applicants Arguments/amendment filed on 1/30/2009 have been entered and made of record.

Applicants Arguments with respect to the prior are moot in view of new grounds of rejection.

Applicants arguments/amendments with respect 35 U.S.C. 101 applicants amendments have overcome the rejections to claims 1-4 and 9.

***Rejections under 35 U.S.C. 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-3 and 9-14 and 21 rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The specification lacks support for the claim features "external source" and "receiving an image from the external source"

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these claim elements are not found in the specification. Applicant has not indicated where he believes these newly amended claim features are supported.

Claim 21 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Typically a "selector" plane in the MRC context is a binary image describing for example what data is on an upper or lower plane. However applicant describes the selector plane as a grey scale data see paragraph 42 "the high frequency image data becomes the selector plane" this makes no sense. The this high frequency grey scale data is further disclosed and claimed as being compressed by a binary compression algorithm CCITT G4. It is unclear what applicant intends his selector plane to be or what a selector plane is within the context of this invention or how to use and compress the selector plane. The examiner assumes the "text plane" which lacks antecedent basis is a selector plane because the specification only appears to disclose two planes..

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 9-14 and 21 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Re claims 9-14 these claims claim "wherein in the converter...are implemented in software.....that is stored on a computer readable storage medium installed in the apparatus or in hardware" It is unclear what the word "or" is modifying (apparatus or software).

Re claim 21, Claim 21 claims "a selector plane" and a "text plane". The selector plane is inadequately described in the specification to be unclear as to what applicant intends this claim limitation to mean. Typically a "selector" plane in this context is a binary image describing for example what data is on an upper or lower plane. However applicant describes the selector plane as a grey scale data see paragraph 42 "the high frequency image data becomes the selector plane" this is unclear. The this high frequency grey scale data of the selector plane is further disclosed and claimed as being compressed by a binary compression algorithm CCITT G4. It is unclear what applicant intends his selector plane to be or what a selector plane is within the context of this invention. The description of it makes no sense. The examiner assumes the "text plane" which lacks antecedent basis is a selector plane because the specification only appears to disclose two planes.

***Rejections Under 35 U.S.C. 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 2 and 9, 10 rejected under 35 U.S.C. 103(a) as being unpatentable over Culciurean-Zapan et al US 6,343,159 ("Zapan") in view of Fan et al US 6,400,844.

Re claim 1 Culcurian-Zapan et al discloses A computer readable storage medium storing a program for reformatting binary image data, the binary image data transmitted from an external source outside an apparatus into which the computer readable storage medium is installed, comprising: receiving a binary image from the external source (column 6 lines 10-20); converting the binary image data into grayscale image data (inverse halftone column 2 lines 30-40);

Fan et al discloses segmenting gray scale image data into a first plane (upper plane column 5 lines 5-15 ) having high spatial frequency gray scale image data (dark sides of edges see abstract) and a second plane (lower plane column 5 lines 5-15) having low spatial frequency gray scale image data (smooth portions see abstract); and

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separately compressing (column 5 lines 24-30 note each can be compressed differently) the high spatial frequency gray scale image data in the first plane and the low spatial frequency gray scale image data in the second plane.

The motivation to combine is that Zapan suggests that any image compression algorithm may be used in combination with his invention (see column 2 lines 30-40). Fan describes an image compression algorithm, Therefore it would have been obvious to combine Zapan with Fan.

Re claim 2 Fan discloses wherein segmenting gray scale image data includes segmenting gray scale image data into a plurality of blocks (see figure 2) based on gray scale levels of the scale image data.

Re claim 9, claim 9 is claimed as an apparatus performing the method of claim 1 (see rejection for claim 1.)

Re claim 10, claim 10 is claimed as an apparatus performing the method of claim 2 (see rejection for claim 2.)

Claims 12-14 rejected under 35 U.S.C. 103(a) as being unpatentable over Zappan in view of Fan et al US 6400,844.

Re claim 12 Zapan and fan disclose all of the elements of claim 9 the do not disclose a marking device incorporating the apparatus of claim 9. However examiner is taking a official notice that marking devices are notoriously well known. The advantage to combine would to improve the marking device by “compressing the digital representation of a document” (Fan column 1 lines 5-15). Therefore it would have been obvious to one of ordinary skill in the art to combine Zapan, Fan and examiners official notice

Re claim 13 Zapan and Fan disclose all of the elements of claim 9 the do not disclose a photocopier incorporating the apparatus of claim 9. However examiner is taking a official notice that photocopiers are notoriously well known. The advantage to combine would to improve the photocopier by “compressing the digital representation of a document” (Fan column 1 lines 5-15). Therefore it would have been obvious to one of ordinary skill in the art to combine Zapan, Fan and examiners official notice

Re claim 14 Zapan and fan disclose all of the elements of claim 9 the do not disclose a document scanner incorporating the apparatus of claim 9. However examiner is taking a official notice that document scanners are notoriously well known. The advantage to combine would to improve the document scanner by “compressing the digital representation of a document” (Fan column 1 lines 5-15). Therefore it would have been obvious to one of ordinary skill in the art to combine Zapan, Fan and examiners official notice

Claims 3, 11 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zapan in view of Fan et al US 6400,844 in further view Ferman et al Us 7,379,594.

Re claim 3 Zapan and fan disclose all the elements of claim 1 Ferman discloses enhancing the low spatial frequency gray scale image data in the second plane (column 1 lines 5-20). The motivation to combine is enhance one type of content without degrading another see column 1 lines 5-20). Therefore it would have been obvious to one of ordinary skill in the art to combine Zapan, Fan and Ferman.

Re claim 11, claim 11 is claimed as apparatus performing the program of claim 3 (see rejection for claim 3.)

Re claim 21 Culcurian-Zapan et al discloses A computer readable storage medium storing a program for reformatting binary image data, the binary image data transmitted from an external source outside an apparatus into which the computer readable storage medium is installed, comprising: receiving a binary image from the external source (column6 lines 10-20); converting the binary image data into grayscale image data (inverse halftone column 2 lines 30-40);

Fan et al discloses segmenting gray scale image data into a selector plane (column 5 lines 15-35 ) and a background plane (lower plane column 5 lines 5-15); Scaling the grey scale image data in the background plane (column 5 lines 15-25) and

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separately compressing (column 5 lines 24-30). the background plane using JPEG and the text plane using G4 compression.

The motivation to combine is that Zapan suggests that any image compression algorithm may be used in combination with his invention (see column 2 lines 30-40). Fan describes an image compression algorithm, Therefore it would have been obvious to combine Zapan with Fan.

Ferman discloses enhancing the low spatial frequency gray scale image data in the second plane (column 1 lines 5-20). The motivation to combine is enhance one type of content without degrading another see column 1 lines 5-20). Therefore it would have been obvious to one of ordinary skill in the art to combine Zapan, Fan and Ferman.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the

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shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SEAN MOTSINGER whose telephone number is (571)270-1237. The examiner can normally be reached on 9-5 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh Mehta can be reached on (571)272-7453. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Bhavesh M Mehta/  
Supervisory Patent Examiner, Art Unit 2624

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